

Director, Bureau of Laboratories
Sandip Shah, PhD, HCLD(ABB)

this issue...

Corrected Version Telephone Number Change for Immune Status Test Forms Acquisition	2
MDHHS BOL Offers Free Packaging and Shipping Classes	3
Norovirus-"Something Besides Spring Can Be In The Air."	4
Hepatitis A Virus in Michigan	5
How Are We Doing? We Want To Hear From You!	8
Submitter Update for Zika Virus Testing - "Where should the lab report be sent?"	8

Bureau Vision

The Bureau of Laboratories is a stronger, more diverse team within an integrated public health system. We utilize advanced technology and innovative leadership to provide comprehensive public health services in our dynamic global community.

Bureau Mission

We are dedicated to continuing leadership in providing quality laboratory science for healthier people and communities through partnerships, communication and technical innovation.



Michigan Department of Health & Human Services

RICK SNYDER, GOVERNOR | NICK LYON, DIRECTOR

MDHHS BOL Offers Free Packaging and Shipping Classes

Author: Shannon Sharp, MT(ASCP), Bioterrorism Training Coordinator

The Packaging and Shipping course will provide a comprehensive overview of Federal (DOT & USPS) and International (IATA) regulations applicable to packaging and shipping of laboratory specimens. This intermediate level course offers an understanding of the terminology, packaging, marking, labeling, and documentation requisites by integration of lecture, demonstrations, group exercises, and handouts. Successful completion of this course meets requirements for employer certification. This class is designed to meet the needs of those previously certified as well as those who have never completed certification.

The first two hours will be a combined training for those who have never been previously certified and a refresher course for those renewing their certification. Participants who have never been certified will stay for an additional 2 hours of training for in-depth discussion, hands-on exercises, and a question and answer period.

If you are interested in attending any of the sessions listed in the adjacent table, please register at the MI-TRAIN website: <https://mi.train.org>

The course name is **Packaging and Shipping of Clinical Samples**. The course identification number is **1062236**.

For questions contact Shannon Sharp at 517-335-9653 or sharps1@michigan.gov

Facility Name	Address	Date	Time
Garden City Hospital Room: Main Auditorium	6245 N Inkster Rd Garden City, MI 48135	5/23/2017	10am-2pm (Recertification only 10am-Noon)
MDHHS Bureau of Laboratories Room: 282 (refer to NOTE* below)	3350 N. Martin Luther King Jr. Blvd. Lansing Michigan 48909	6/8/2017	1pm-5pm (Recertification only 1pm-3pm)
Munson Medical Center Room # 2 Lab Classroom D3	1105 Sixth Street Traverse City, MI 49684	7/27/2017	10:30am-2:30pm (Recertification only 10:30am-12:30pm)
War Memorial Hospital Laboratory	500 Osborn Blvd Sault Ste. Marie, MI. 49783	8/7/2017	10am-2pm (Recertification only 10am-Noon)
M-Tec at Bay College Room: 2026	2490-2500 N 30th St Escanaba, MI 49829	8/8/2017	9am-1pm (Recertification only 9am-11am)
Dickinson County Healthcare Sys- tem Room: Conference Room B	1721 S Stephenson Ave Iron Mountain, MI 18901	8/8/2017	2pm-4pm Central Time Recertification only
Upper Peninsula Health System Laboratory- Marquette Room: Conference Room 3	420 W Magnetic St Marquette, MI 49855	8/10/2017	9am-1pm (Recertification only 9am-11am)
Portage Health System Laboratory Room: Conference Center	500 Campus Drive Hancock, MI 49930	8/11/2017	9am-1pm (Recertification only 9am-11am)
Helen Newberry Joy Hospital Room: Huron Conference Room	502 West Harrie St Newberry, MI 49868	8/14/2017	9am-1pm (Recertification only 9am-11am)
McLaren Northern Michigan Hospital Room: Clinical Ed. Classroom	416 Connable Ave Petoskey, MI 49770	8/15/2017	12pm-4pm (Recertification only 12pm-2pm)
NOTE: MDHHS BOL Classes: Have your driver's license available to show the guard at the entry gate. When you arrive at the gate, press the help button and follow the direction given by the security guard.			

Norovirus- “Something Besides Spring Can Be In The Air.”

Author: Bruce A. Robeson, MT(ASCP), Unit Manager, Viral Isolation and Molecular Testing

Acute infectious gastroenteritis is a common illness affecting humans worldwide resulting in a substantial public health burden with significant morbidity and mortality. Children under the age of 5, the elderly, and Individuals that are immunocompromised are particularly prone to more severe illness. Symptoms may include diarrhea, vomiting, nausea, fever, lethargy, irritability, dehydration, and abdominal cramps.

Norovirus, formerly called Norwalk-like virus, is a Calicivirus belonging to the family *Caliciviridae*. Noroviruses are the most common cause of nonbacterial gastroenteritis epidemics affecting people of all ages. Noroviruses are classified into five genogroups: GI, GII, GIII, GIV, and GV. GI, GII, and GIV are found mainly in humans; GII and GIII are associated with pigs and cattle; and GV is found in mice. There are at least 14 genotypes of GI and 29 genotypes of GII reported. A single genotype of norovirus (GII.4 – genogroup II, genotype 4) has accounted for approximately 80% of all norovirus gastroenteritis outbreaks in the past decade.

The incubation time for norovirus is 1-2 days, and viral shedding lasts for 1-21 days. Clinical features include vomiting for 0.5-1 days and diarrhea

for 1-2 days. Norovirus is highly contagious, anyone can be infected and become sick. Also, you can get norovirus illness many times in your life. One reason for recurrent illness is there are many different types of noroviruses. Being infected with one type of norovirus may not protect you against other types. Infection happens when stool or vomit from an infected individual enters the mouth of a non-infected person. This usually happens by eating food or drinking liquids that are contaminated with norovirus, touching surfaces or objects (e.g. eating utensils, doorknobs, etc.) contaminated with norovirus, or by caring for someone who is ill. If proper handwashing is not performed, the virus may spread from hands to mouth. Aerosol transmission through vomiting can also cause disease.

Norovirus can spread quickly in closed places like daycare centers, nursing homes, schools, and cruise ships. In the United States, most norovirus outbreaks occur between the months of November to April.



Hepatitis A Virus in Michigan

Author: Kristine W. Smith, MT(ASCP), Unit Manager, Bacterial and Viral Serology

Southeast Michigan has seen an 8-fold increase in cases of hepatitis A virus (HAV) since August 2016. One hundred seven cases were reported from Macomb, Oakland, and Wayne counties, and the city of Detroit; with an 86% hospitalization rate and two deaths. Substance abuse history accounted for 1/3 of these cases, and 16% were co-infected with hepatitis C virus (HCV). No common source has yet been found.

Background

Hepatitis A virus is a non-enveloped, positive stranded RNA virus, classified within the genus *Hepatovirus* of the *Picornaviridae* family.

A very hardy virus, hepatitis A can live outside the body for months; and transmission is primarily through the fecal-oral route. Direct contact with an infected individual or contaminated object can cause infection. Infections by sharing illicit drugs, sexual contact (anal-oral), and infection through blood transfusions, though rare, have also been reported. Present worldwide, the risk of infection is higher with decreased levels of sanitation; in developing countries with poor environmental hygienic conditions, nearly all children are infected with HAV before the age of 10. HAV infections for young children in these areas are mostly asymptomatic and unrecognized. The severity of the

disease increases with age at time of infection. Symptoms can appear approximately 2-6 weeks after exposure and include jaundice, fatigue, fever, nausea, vomiting, loss of appetite, abdominal pain, dark urine, light colored stools, acute liver failure, and possibly death. Symptoms generally last for a few weeks to as long as 6 months. Treatment is generally supportive, but administration of HAV vaccine or immune globulin may prove beneficial in preventing infection if given within 2 weeks of exposure.

Hepatitis A is preventable by vaccine. Vaccines are recommended for individuals with close personal contacts to HAV infected individuals, users of illicit drugs, people with chronic liver diseases, men who have sex with men, individuals who are being treated with clotting-factor concentrates, all children at 1 year of age, and for travelers, care givers, or family members from countries where hepatitis A is common.

Local health departments have been reaching out to vulnerable populations to raise awareness and promote vaccination.

continued on Page 6

Hepatitis A Virus in Michigan, continued from Page 5

Laboratory Testing

The presence of HAV IgM antibodies in a patient specimen indicates a recent exposure to hepatitis A virus or vaccine response. In most infected individuals, HAV IgM antibody is detectable 5 to 10 days before the onset of symptoms and declines to undetectable levels within 6 months, although sensitive immunoassays will occasionally detect anti-HAV IgM for up to one year after acute hepatitis infection. At the onset of symptoms, the presence of anti-HAV IgG rises with the presence of anti-HAV IgM. Since anti-HAV IgG persists and provides life-long immunity after acute infection, detection of anti-HAV IgG alone indicates past infection or vaccine response.

MDHHS BOL uses the MONOLISA Anti-HAV IgM capture enzyme immunoassay, run on Bio-Rad's EVOLIS automated system for the detection of IgM antibodies to hepatitis A virus. Results are reported as ABSENT, PRESENT, OR EQUIVOCAL. As noted above, HAV IgM antibodies may persist in some individuals for more than one year following exposure. Any diagnosis should take into consideration the patient's symptoms and clinical history, along with other laboratory data. Patients with specimens exhibiting equivocal results may be at the beginning or the end of an acute infection, and should be re-tested at approximately two-week intervals.

A change in result from equivocal to positive typically indicates acute infection, whereas no change is normally associated with late or recovering disease or the presence of low level interfering substances. Absence of antibody does not exclude the possibility of infection.

In studies by the manufacturer, the test demonstrated >96% agreement with a reference test (95% confidence interval), and no false positive results from other diseases tested. Interferences may occur if heterophilic antibodies are present or if samples are contaminated with bacteria.

Other test methodologies have demonstrated false positives in patients with other viral diseases, underlying illnesses, and in persons with Non-Hodgkin's Lymphoma. Dietary supplements containing biotin or vitamin B7, taken within 24 hours of blood collection, may also cause false positive reactions with *chemiluminescent* methodologies. MDHHS BOL offers testing for HAV IgM antibodies at no charge, to confirm positive test results from another laboratory or as part of an outbreak investigation. Prior approval by the Bureau of Epidemiology and Population Health is required, and can be obtained by calling 517-335-8165.

continued on Page 7

Hepatitis A Virus in Michigan, continued from Page 6

The Centers for Disease Control and Prevention (CDC) currently performs RUO (research use only) strain typing to determine which cases may be related for epidemiological purposes.

Mayo Medical Laboratories and possibly other commercial laboratories offer reportable HAV PCR testing which may detect HAV before the IgM anti-HAV appears.

Specimen Submission

One mL of serum is required. After collection, specimens should be stored refrigerated if shipment is delayed beyond 1 day. Specimens may be shipped frozen, refrigerated, or at room temperature. The turn-around-time for test result reporting at MDHHS BOL is generally 2-5 days.

Action Steps

Providers are asked to notify their local health department immediately about any patients with confirmed or suspected HAV infection. Infected individuals and their close contacts should be assessed for post-exposure prophylaxis.

Clinical laboratories in SE Michigan are asked to promptly report any positive hepatitis A IgM serum specimens to their local health department or through the Michigan Disease Surveillance System. Any HAV IgM positive serum specimens should be held and stored at -20°C for two weeks in case there is need for further testing at MDHHS BOL or the CDC. This holding request is temporary until further notice.



How Are We Doing? We Want To Hear From You!

Author: Marty Boehme, Section Manager, Quality Assurance

The Michigan Department of Health and Human Services Bureau of Laboratories wants to hear from you!

We have an online feedback tool and also a general email address for your questions and comments. The emails are monitored daily by the Quality Assurance Section and our goal is to follow up quickly. If we don't have the answer, we will forward your question to the right person.

Please give us your feedback at <http://mdhhs-lab.questionpro.com/> Contact us for a response at MDHHS-LAB@michigan.gov

Please let us know how we could better serve you!

Submitter Update for Zika Virus Testing - *“Where should the lab report be sent?”*

We receive many calls for Zika virus test results. Our laboratory will send the report to the submitter that is listed in the “submitter information” box on our test request form. When a physician sends a patient to a hospital, clinic, or public health laboratory to have a specimen collected, the provider information on the Zika supplemental form does not get entered as submitter information unless it is also entered on our laboratory test request form. If the submitter is entered as the hospital or clinic where the specimen is collected, please be aware that the provider who sent the patient to your laboratory for specimen collection may not get the Zika test results report.



**LabLink is published quarterly by the
Michigan Department of Health and Human Services, Bureau of Laboratories,
to provide laboratory information to Michigan health professionals and the public health community.**

MDHHS is an Equal Opportunity Employer, Services and Programs Provider.

Editor: Teresa Miller

